Documentation Update DU

Injection Control Module User's Manual

(Cat. No. 1771-QD/B)

Using This Update

Use this Documentation Update with:

- Injection Control Module User's Manual (publication 1771-6.5.49) dated June 1990
- Injection Control Module User's Manual Documentation Update (publication 1771-6.5.49–DU2)

This document:

Keep this document with your manual.

Correct Errors in DU2 for Appendices A and C

Disregard the corrections to pages A-1 and C-6 in documentation update 1771-6.5.49-DU2. The original manual was correct for these pages.

(Page A-1) The following original ranges and units are correct:

[7] 0-9999 %-travel per second
[8] 0-9999 %-open per second
[9] 0-9999 %-close per second

One or more of these changes also appear on pages A-3, A-5, A-6, and A-9.

(Page C-6) The following original ranges and units are correct:

Integer Range	0 to 09999 (9999% = full stroke in 10ms)
BCD Range	0 to 9999
Units	Percent travel per second

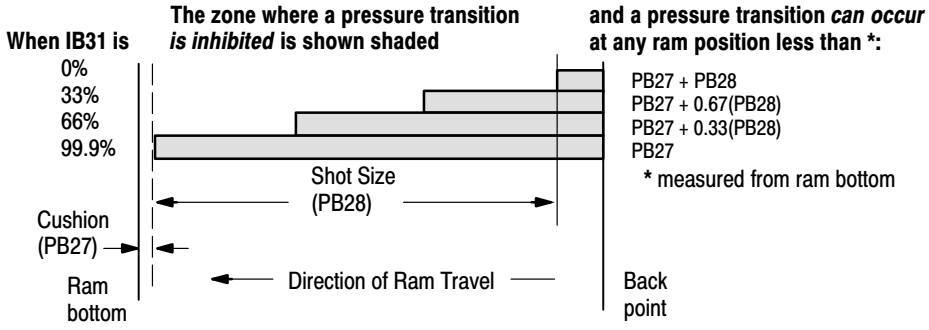
This change also appears on pages C-6, C-22, C-24, C-32, C-39, C-40, C-52.

Clarification of IB31, Minimum % Shot Size for Pressure Transition

Chapter 2 (page 2-8) and Appendix C (page C-21)

Change text to the following:

IB31 Minimum Percent Shot Size for Pressure Transition
To guard against premature pressure transitions from pressure spikes, you can program the QD module to allow a ram or cavity pressure transition only after the ram (screw) injects a percentage of the shot size. Starting near the back point, the ram (screw) is inhibited from a pressure transition as it moves right to left until it reaches a percent shot size that you select. For example:



Ranges and units are:

Integer Range	0 to 099.99
BCD Range	0 to 99.99
Units	Percent shot size traversed

Clarification of Profile Ramp Rates

Appendix C
(pages C-6, -22, -24, -32, -40, -52)

Add the following to word descriptions CB10, IB32,33,41,42, PkB17,18, HB21,22, and PB35,36;

We define the range of ramp rate as 0 to 9999% per second, where 9999% = full stroke in 10ms.

For example, ramping 100% of output in 1/4 second equals 400% per second. You would enter typical ramp rates as follows:

For this ramp rate	Enter this value
100% in 10ms	9999
100% in 100ms	1000
100% in 250ms	400

Use this procedure to compute ramp rates:

1. Convert pressure setpoints to percent of maximum pressure. (Velocity setpoints already are in units of percent.)
2. Subtract the setpoints (in percent) to obtain the step change (in percent) over which you want to ramp.
3. Determine how fast (in what part of a second) you want the ramp to occur.
4. Divide the time into the step change from step 2 to compute the ramp rate.

Example:

Compute the acceleration ramp rate required to change from 600 to 1800 PSI in 1/5 second for a system with 2400 PSI maximum pressure.

1. Convert pressure setpoints to percent of maximum pressure.

   600 PSI ÷ 2400 PSI = 25% 1800 PSI ÷ 2400 PSI = 75%

2. Subtract setpoints to obtain ramp range in percent.

   75% – 25% = 50%

3. Ramp time is 1/5 second, defined in the example problem.
4. Divide ramp time into the step change to compute the ramp rate.

   50% step change ÷ 1/5 second ramp time = 50% x 5 = 250% per second

   Answer = 250% per second

Enhancements for Firmware Revision C

Chapter 10 (page 10-1)

Add to the table at the bottom of page 10-1:

If this LED	is this color	Then the QD module sees this condition	We recommend this corrective action
ACTIVE mode.	green	Lost communication with the processor.	1. Verify the processor is in run
FAULT AUTO	off flashing	The QD module received a valid config block, but has not received a block transfer from the PLC processor in the time-out period.	2. Check for a processor fault. 3. Troubleshoot your ladder logic.

Enhancements for Firmware Revision C (continued)

Appendix A
(page A-3)
Replace

CB36-40	RFU

with the following:

CB36-63	RFU
CB64	Reserved for module – Do not use.

(page A-13)
Replace

IS42-50	RFU

with the following:

IS42	Maximum Cavity Pressure in Injection Phase
IS43-50	RFU

(page A-14)
Replace

PkS15-20	RFU

with the following:

PkS15	Maximum Cavity Pressure in Pack Phase
PkS16-20	RFU

Replace

HS17-20	RFU

with the following:

HS17	Maximum Cavity Pressure in Hold Phase
HS18-20	RFU

Enhancements for Firmware Revision C (continued)

Appendix C

(page C-12)

Replace

CB36 thru CB40	Reserved	Not monitored by the QD module

with the following:

CB36 thru CB63	Reserved	Not monitored by the QD module
CB64	Reserved	Reserved for module – Do not use

(page C-88)

Replace

IS42 thru IS50	Reserved	Zero when returned by the QD module

with the following

IS42 Max Cavity Pressure During Injection — Returns the highest cavity pressure recorded during the injection phase.

Integer Range	0 to 20000 PSI	CB05-B16(14)=0
	0 to 2000.0 Bar	CB05-B16(14)=1
BCD Range	0 to 9999 PSI*	CB05-B16(14)=0
	0 to 999.9 Bar*	CB05-B16(14)=1

* Double this value when CB05-B17(15)=1

IS43 thru IS50	Reserved	Zero when returned by the QD module

(page C-91)

Replace

PkS15 thru PkS20	Reserved	Zero when returned by the QD module

with the following

PkS15 Max Cavity Pressure During Pack — Returns the highest cavity pressure recorded during the pack phase.

Integer Range	0 to 20000 PSI	CB05-B16(14)=0
	0 to 2000.0 Bar	CB05-B16(14)=1
BCD Range	0 to 9999 PSI*	CB05-B16(14)=0
	0 to 999.9 Bar*	CB05-B16(14)=1

* Double this value when CB05-B17(15)=1

PkS16 thru PkS20	Reserved	Zero when returned by the QD module

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Enhancements for Firmware Revision C (continued)

(page C-94)
Replace
HS17 thru
HS20 Reserved Zero when returned by the QD module

with the following

HS17 Max Cavity Pressure
During Hold Returns the highest cavity pressure recorded during the hold phase.

Integer Range	0 to 20000 PSI	CB05-B16(14)=0
	0 to 2000.0 Bar	CB05-B16(14)=1
BCD Range	0 to 9999 PSI*	CB05-B16(14)=0
	0 to 999.9 Bar*	CB05-B16(14)=1

* Double this value when CB05-B17(15)=1

HS18 thru
HS20 Reserved Zero when returned by the QD module

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